2.5.0. CONSTRUCTION PLAN INFORMATION AND SUBMITTAL REQUIREMENTS

2.5.1. General

A. Construction plans for water, reclaimed water, and wastewater service shall be submitted to the Austin Water Utility's Pipeline Engineering Division for verification of conformance to the City of Austin Standards and Specifications. The Pre-Construction Meeting must occur within two (2) years of the date of AWU plan approval, otherwise they must be resubmitted to the Austin Water Utility review team to ensure compliance with any changes in requirements related to health and safety.

B. If the provider of service is a Municipal Utility District (MUD), Water Control and Improvement District (WCID) or private utility corporation, then prior approval by the provider of service is also required.

C. Plans submitted to the Austin Water Utility must show approved easements and/or permits on highway and/or railroad crossings.

D. A Development Permit must be obtained from the Planning and Development Review Department prior to final plan approval.

E. Plans that include fire lines must have approval by the City of Austin Fire Department and the Planning and Development Review Department.

F. All water, reclaimed water, and wastewater plans will include the following items:

1. Engineer's dated signature and seal of a Professional Engineer licensed in the State of Texas on each plan sheet.

2. Date of Plans and revisions.

3. North arrow and scale must be shown. The standard horizontal scale for plan and profile sheets shall be 1" = 40', 30' or 20' for the plan view. The vertical scale shall be 1" = 4', 3' or 2'. The same scale shall be used on all plan and profile sheets. For sheets other than plan and profile, horizontal scales of 1" = 40', 30' or 20' may be used as appropriate. The minimum size for plan and profile sheets shall be 22" x 34". ***Plan view and associated profile shall appear on the same sheet with the plan view at the top half of the sheet.***

4. A general location map, showing MAPSCO and grid numbers.

5. Current standard City of Austin Water and Wastewater construction notes.

6. Indicate on the cover sheet, the subdivision file number, include a copy of the service extension form, and show all required permit numbers such as development permit, Texas Department of Transportation permit, railroad crossing permit, etc.

7. Volume and page number of recorded easement and of any temporary working space.

8. For sites and subdivisions, show GIS numbers of all existing mains and ~~appurtences~~ ***appurtenances***. For City-funded, City-reimbursed, and City-cost-participation projects, show GIS numbers for all existing and proposed mains and appurtenances.

9. Size, pipe material, and location of main with respect to easements and rights-of way. Mains 24 inches and larger shall be shown by double lines indicating pipe outside diameter.

10. Property lines and dimensions, legal description, lot and block numbers, right-of-way dimensions, and curb and sidewalk locations and street names.

11. Location, size, and material of all existing water, reclaimed water, and wastewater mains, lines and services. The direction of flow in the wastewater mains shall be indicated on the drawings. ***City of Austin record drawings for potable water, wastewater, and reuse water may not be reliable. The Engineer is encouraged to collect subsurface utility data according to American Society of Civil Engineers (ASCE), Standard Guidelines for the Collection and Depiction of Existing Subsurface Utility Data.***

12. Location, size, and description of other existing and proposed utilities within the limits of construction.

13. Curve data for roads, property lines, water, and reclaimed water lines.

14. Final plat recording or land status report.

15. Street address for all existing structures shall be shown on the lot(s) where the structures are located.

16. Pressure zone designation for subject tract and zone boundaries where applicable.

17. Where water, wastewater, and/or reclaimed water mains cross each other, details shall be shown to indicate compliance with TCEQ requirements.

18. The Design Engineer shall provide typical cross sections showing multiple utilities proposed to be within private streets or easements.

19. An Index shall be provided on the drawings starting on the cover sheet or on the 2nd page of the drawings.

G. Final plan approval may require additional authorizations such as:

1. Texas Department of Transportation permit.

2. Railroad permit.

3. Gas Company permit.

4. Easement acquisition (Vol. and Page or document number listed on plans).

5. County approval.

6. Water District approval.

7. Municipal Utility District approval.

8. Texas Department of Health approval.

9. Texas Commission on Environmental Quality.

10. Non-occupancy letter.

11. Service Extension approval.

12. Planning and Development Review Department approvals.

2.5.2. Water and/or Reclaimed Water System Plans

A. All plan view drawings shall include all applicable items listed in the General Requirements above plus the following items.

1. Stations of all proposed connections to existing or proposed mains, if the service line is not perpendicular from the main to the property line.

2. For proposed connections to mains or facilities to be constructed by others: identify the project by name, the design engineer, and service extension number.

3. Station numbers for mains shall be identified for beginning points, ending points, points of curvature, points of tangent, points of reverse curve, points of intersection, valves, fire hydrants, other appurtenances and grade breaks.

4. Station numbers shall be identified for the mains where they cross any other utility.

5. Details of appurtenances shall be shown.

6. The location of all existing and proposed services, mains, valves, fire hydrants, and backflow preventers shall be identified.

7. One hundred year flood plain limits shall be shown.

~~8. A reference noting the field book notes for the original survey shall be shown.~~

~~9.~~ ***8.*** Proposed and affected existing mains shall be labeled with design velocities at maximum day plus fire flow and at peak hour flow.

~~10.~~ ***9.*** Calculated design pressure at highest and lowest lot served shall be shown.

~~11.~~ ***10.*** Location (beginning and ending station numbers) and type of thrust restraint shall be shown on the plan view.

~~12.~~ ***11.*** Retaining walls, including geogrid, straps, tiebacks and all other components shall be shown.

~~13.~~ ***12.*** Culverts, bridges, and other drainage structures shall be shown.

~~14.~~ ***13.*** Fire hydrants, located so as not to conflict with ADA features, traffic signal foundations, sign supports, and other surface features.

~~15.~~ ***14.*** Geotechnical borings shall be shown. (required for City funded projects only)

~~16.~~ ***15.*** Auxillary water sources, if any, shall be shown.

B. A profile drawing shall be provided for all water mains ~~twelve (12) inches in diameter and larger~~***, per Austin City Code, Section 14-11-183(C)(2)***, showing all applicable items listed in the General Requirements plus the following items:

1. The existing ground profile and proposed street finish grade or subgrade.

2. Station numbers and elevations of all utility crossings.

3. Station numbers and soil geology information at stream crossings to evaluate the need for special surface restoration.

4. Identify pipe size, percent grade and pipe material to be used including ASTM and/or AWWA designation. If an alternate material is to be allowed, both should be listed (example “Dl. or DR14 PVC”). Lines must be included to indicate pipe flowline and crown.

5. Station numbers and elevations for starting points, ending points, point of intersection, grade breaks, valves, fire hydrants, air release valves, pressure/flow regulating valves and at intermediate points every 100 feet.

6. Retaining walls, including geogrid, straps, tiebacks, and all other components.

7. Culverts, bridges and other drainage structures.

8. Curb elevations at fire hydrant locations.

9. Geotechnical boring graphic symbols, showing subsurface materials. (required for City funded projects only)

10. Locations by station of restrained pipe, indicating type of restraint.

11. Beginning and ending stations for encasement.

12. Air valve vaults, and piping from the main to the vault shall be included in the profile view. The rim elevation for the vault shall be shown along with the ground profile from the main to the vault.

2.5.3. Wastewater System Plans

A. All plan view drawings shall include all applicable items listed in the General Requirements mentioned above plus the following items.

1. Station numbers and GIS numbers at all proposed connections to existing or proposed wastewater mains if the service line is not perpendicular from the main to the property line.

2. For proposed connections to wastewater mains or facilities to be constructed by others, identify the project name, the design engineer and the service extension number.

3. The location, alignment and structural features of the wastewater main, including manholes and concrete retards, if applicable.

4. Station numbers and GIS numbers for beginning points, ending points, manholes, clean-outs and other appurtenances.

5. Details of all required appurtenances.

6. Location of all existing and proposed wastewater services, mains and manholes.

7. One hundred year flood plain limits.

8. A reference noting the field book notes for the original survey.

9. Retaining walls, including geogrid, straps, tiebacks and all other components.

10. Culverts, bridges and other drainage structures.

11. Locations of geotechnical borings. (required for City funded projects only)

12. Locations of bolted manhole covers.

13. The drawings shall contain a plan view detail of the invert of each manhole or junction box having three or more pipes connecting to it, regardless of the pipe sizes or when two pipes connect to a manhole at an angle other than 180 degrees from each other.

B. A profile view shall be provided for all wastewater mains and shall include all applicable items listed in the general requirements above plus the following items:

1. The existing ground profile and proposed street finish grade or subgrade or finished grade if not under pavement.

2. Station numbers and elevations of all utility crossings.

3. Station numbers and soil geology information at stream crossings to evaluate the need for special surface restoration.

4. Identify the pipe size, percent grade and pipe material to be used including ASTM and/or AWWA designation. If an alternate material is to be allowed, both should be listed (example "Dl or PVC"). Lines must be included to indicate pipe flowline and crown.

5. Station numbers and elevations for starting points, ending points, manholes, clean-outs and at intermediate points every 100 feet.

6. Elevations shall be indicated on the profile showing the finish floor elevations of all existing structures, If the structure has an active septic tank or other disposal system, the flow line elevation of the plumbing where it exits from the structure is to be indicated. If a lot or tract is vacant, side shots may be required from the middle of each lot to ensure gravity service is possible from the lot to the main.

7. Peak dry weather flow and peak wet weather flow, as well as the associated velocities in each pipe.

8. Retaining walls, including geogrid, straps, tiebacks and all other components.

9. Culverts, bridges and other drainage structures.

10. Rim elevations for manholes

11. Flow line elevations for all pipe connections at manholes and junction boxes.

12. Geotechnical boring graphic symbols showing subsurface materials. (required for City funded projects only)

13. Beginning and ending stations for encasement.

(NOTE: AWU plan Approval shall expire three years from the date of current approval. If construction has not begun on the facility within three years of the approval date, Plans must be resubmitted for approval and must include all criteria in effect at the time resubmitted.)